

Claims

What is claimed is:

1. A breather filter cartridge for use in a data storage device comprising:
a body having a tubular sidewall portion and an end portion at one end of the
5 tubular sidewall portion together defining a chamber for containing a filter media, wherein the
end portion has a diffusion path formed therein interfacing with the chamber along the tubular
sidewall portion.
2. The breather filter cartridge of claim 1 wherein the end portion has a flange
10 extending outwardly around the tubular sidewall portion.
3. The breather filter cartridge of claim 2 wherein the diffusion path is formed within
the flange.
4. The breather filter cartridge of claim 1 further comprising a film positioned on the
15 end portion.
5. The breather filter cartridge of claim 4 wherein the film is a gas permeable film.
6. The breather filter cartridge of claim 1 wherein the diffusion path formed in the
20 end portion extends around the tubular sidewall portion.
7. The breather filter cartridge of claim 1 further comprising a gas permeable film
over an opposite end portion of the tubular sidewall portion.
8. The breather filter cartridge of claim 1 wherein the chamber extends through the
25 end portion.
9. In a data storage device having a base and a cover forming a clean internal
30 environment therein, a breather filter cartridge permitting gas pressure equalization between an
external environment and the internal environment, the breather filter cartridge comprising:

a body having a tubular sidewall portion and an end portion at one end of the tubular sidewall portion together defining a chamber for containing a filter media, wherein the end portion has a diffusion path formed therein interfacing with the chamber along the tubular sidewall portion.

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10. The breather filter cartridge of claim 9 wherein the end portion has a flange extending outwardly around the tubular sidewall portion.

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11. The breather filter cartridge of claim 10 wherein the diffusion path is formed within the flange.

12. The breather filter cartridge of claim 9 further comprising a film positioned on the end portion.

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13. The breather filter cartridge of claim 12 wherein the film is a gas permeable film.

14. The breather filter cartridge of claim 9 wherein the diffusion path formed in the end portion extends around the tubular sidewall portion.

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15. The breather filter cartridge of claim 9 further comprising a gas permeable film over an opposite end portion of the tubular sidewall portion.

16. The breather filter cartridge of claim 9 wherein the chamber extends through the end portion.

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17. In a data storage device having a base and a cover forming a clean internal environment therein, a breather filter cartridge comprising:

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a body having a tubular sidewall portion and an end portion at one end of the tubular sidewall portion together defining a chamber for containing a filter media, wherein the end portion has a diffusion path formed therein interfacing with the chamber along the tubular sidewall portion; and

a means for equalizing gas pressure between an external environment and the internal environment of the data storage device by providing a diffusion path for gas to pass through the end portion of the breather filter cartridge to and from the chamber along the tubular sidewall portion.

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18. The breather filter cartridge of claim 17 wherein the end portion has a flange extending outwardly around the tubular sidewall portion.

19. The breather filter cartridge of claim 18 wherein the means for equalizing gas
10 pressure is formed within the flange.

20. The breather filter cartridge of claim 17 further comprising a film positioned on the end portion.

15 21. The breather filter cartridge of claim 20 wherein the film is a gas permeable film.

22. The breather filter cartridge of claim 17 wherein the means for equalizing gas pressure is formed in the end portion extends around the tubular sidewall portion.

20 23. The breather filter cartridge of claim 17 further comprising a gas permeable film over an opposite end portion of the tubular sidewall portion.

24. The breather filter cartridge of claim 17 wherein the chamber extends through the end portion.

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